REMARKS

This amendment is responsive to the Office action dated August 26, 2002. It amends claims 1, 54, and 61 and adds new claims 68-73, that is, the dependent claims 49, 51, 55, 57, 62, and 64 rewritten in independent form where the etching is carried out with a liquid etchant. Applicants respectfully request reexamination and reconsideration of claims 1 and 49-73.

With regard to paragraph nos. 1-2 of the Office action, the Examiner rejected claims 1, 50, 52, and 53 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,357,899 to Bassous et al. Because Bassous et al. do not describe growing a Si-Ge-C layer, wherein the carbon of the Si-Ge-C layer is an amount from 1 to 10 atomic percent, Bassous et al. cannot anticipate amended claim 1 or its dependent claims 50, 52, and 53.

Bassous et al. also does not teach or suggest a Si-Ge-C layer, wherein the carbon of the Si-Ge-C layer is an amount from 1 to 10 atomic percent. Instead, Bassous describes the low temperature chemical vapor deposition of a silicon layer doped with <u>boron</u> in a concentration range greater than 2 x 10 exp 20 atoms of boron per cubic centimeter of silicon or with germanium in a concentration range greater than 5 x 10 exp 20 atoms of germanium per cubic centimeter of silicon, or with a combination of boron and germanium in these concentration ranges (See Abstract, col. 3, lines 1-20, col. 4, lines 48-53).

With regard to how much greater the boron concentration is in the epitaxial layer, Bassous et al. state that boron doped epitaxial layers are "virtually unetchable" in hot concentrated KOH solutions if the boron dopant concentration is greater than or <u>equal</u> to 5 x 10 exp 20, which is 1 atomic percent. There is no motive for one of ordinary skill to go above this 1 atomic percent concentration of boron, however, since higher concentrations of boron would raise costs with no apparent benefit.

The PCT Report takes the position that Bassous et al. fail to teach an amount of carbon within the Si-Ge-C layer, merely that carbon may be used. Bassous et al. also do not disclose how much carbon would be suitable to achieve the desired amount of etch selectivity. Instead Bassous et al. states that carbon, like boron, is suitable for stress compensation of the lattice (col. 3, 1-20). If carbon, known to have a smaller atomic radius than boron, were to replace boron as the dopant, a <u>lower</u> percentage of carbon would generate the same amount of tensile stress. It is therefore submitted that Bassous et al. does not disclose, mention or suggest a method for using Si-Ge-C where the carbon is from 1 to 10 atomic percent in selective etch applications, in accordance with the present invention and therefore the present invention is novel and unobvious over Bassous et al.

With regard to paragraph nos. 3-5 of the Office action, the Examiner rejected claims 54, 56, 58-60, 61, 63, and 65-67 under 35 U.S.C. 103 as being unpatentable over U.S. Patent No. 5,357,899 to Bassous et al. in view of U.S. Patent No. 4,885,614 to Furukawa et al.

However, Bassous et al. fail to teach any of these claims as previously discussed and Furukawa et al. fails to make up for the deficiencies of Bassous et al. Furukawa et al. relate to the fabrication of silicon-based semiconductor materials with a Si-Ge or Si-Ge-C layer for use in electronic elements such as bipolar transistors and field effect transistors, and optical elements such as photodiodes. Furukawa et al. attempt to solve the problems associated with the generation of too many misfit dislocations in a monocrystalline Si-Ge alloy grown on monocrystalline silicon to a thickness exceeding its critical value. Furukawa et al. seek to address the problem of obtaining the desired bandgap in a Si-Ge alloy while decreasing the Ge content to increase the critical layer thickness of the Si-Ge alloy (column 1, lines 58-68).

Furukawa et al. does not disclose any method of using Si-Ge-C in an etch application, any etching process, and provides no hint as to whether Si-Ge-C may be suitable for etching or whether it functions as an etch-stop. Furukawa et al. only describes the use

of carbon in the context of lattice stress compensation in similar fashion to Bassous et al. In particular, Furukawa describes the use of carbon (having an atomic radius which is smaller than silicon) to compensate for the presence of germanium (which has a larger atomic radius than silicon). There would therefore be no motivation for the skilled person to consider Furukawa et al. when considering how to overcome the problems associated with conventional etch-stop structures or methods for the use of Si-Ge-C in selective etch applications as recited in claims 54, 56, 58-60, 61, 63, and 65-67 in the present application. Therefore, these claims would have been unobvious over Furukawa et al.

In view of the above, applicants submit that the application is in condition for allowance. Please call me regarding any questions, comments, or if it will expedite the progress of the application.

Respectfully Submitted,

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